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60th year of publication

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August, 1953

Outline of Management in Early Stages of Acute Poliomyelitis*

Apprehension is a great foe of the hospitalized poliomyelitis patient and must be eliminated by wise management.

ALEX J. STEIGMAN, M.D., *Department of Pediatrics,
University of Louisville, Louisville, Kentucky*

I. ABORTIVE POLIOMYELITIS:

Fever, anorexia, sore throat, malaise, and headache are frequent symptoms observed during outbreaks of clear-cut poliomyelitis. A presumptive diagnosis of abortive poliomyelitis may be entertained in the absence of signs or symptoms referring to the central nervous system. Such patients should be confined to bed at home ordinarily, but trauma (such as spinal punctures) and fatigue must be avoided. Coal tar analgesics and if necessary mild barbiturate sedation may be employed avoiding natural and synthetic opiates. The patient is restricted until fever-free for one week. Constipation is fairly common and may require attention.

II. NON-PARALYTIC POLIOMYELITIS:

This disease consists in part or in all of the above symptom complex and definite nuchal-spinal rigidity. For differential diagnosis the physician must see¹ if conditions permit regular observation; many patients with non-paralytic poliomyelitis can be managed at home. In addition to therapy noted above, the application of moist heat or use of an infra-red lamp may add comfort to the patient as will a mattress made rigid by placing a board beneath it. Patients escaping readily detectable paralysis should be examined, preferably by a physiatrist or orthopedist approximately two months after recovery for minor degrees of neuro-muscular residuals.

*This brief outline of therapy was written at the request of the Editors to serve as a guide in the management of such patients.

1. Definitive and Differential Diagnosis of Poliomyelitis, *The National Foundation for Infantile Paralysis, Inc., N.Y., 1951.*

III. PARALYTIC POLIOMYELITIS: Unless mild and non-progressing this type of poliomyelitis usually requires expert hospital care. Lengthy arduous journeys in the early stages may aggravate the severity of disease so that sensible individual judgement is necessary in deciding about hospitalization of the patient². *Early* orthopedic supervision is very desirable in paralytic patients, consultation with an otolaryngologist or thoracic surgeon in patients with difficulty in breathing and swallowing.

CHIEF PRINCIPLES OF MANAGEMENT IN HOSPITALIZED PARALYTIC PATIENTS

Most important: Attendants and visitors should be told to disseminate reassurance and display quiet confidence. Most states limit the isolation period to one week from onset of the *first* symptom. Beyond that period the avoidance of fear-inspiring masks, etc. is desirable and reasonable visiting by parents and others is encouraging to the patient. Apprehension is a great foe of the hospitalized poliomyelitis patient, especially in those with breathing difficulties, and must be eliminated by kindness and wise management. Since there are no specific medications, a high degree of individualization for each patient is very important.

1. Optimum functional position must be maintained and a board is placed under the mattress; feet are kept at right angle by placing them against a foot-board or wearing shoes in bed for small uncooperative children; knees are kept slightly flexed.
2. Over-examination and unnecessary handling during the early painful days should be avoided.

3. The use of barbiturates and atropine derivatives in the presence or threat of impaired ventilation is contraindicated. Sedatives are permissible for spinal paralytic patients or those closely supervised *after* being placed in a mechanical respirator.

SUGGESTED ORDERS IN ADDITION TO ABOVE PRINCIPLES:

1. TPR q.i.d.; blood pressure should be charted daily.
2. Moist heat for painful parts is recommended, q. 3 to 4 hours. Laid-on wool blankets heated in a large steam sterilizer and put through a cloth-wringer can be improvised when a special hot-pack machine is not available.
3. Small volume glycerin and water enemas, two ounces of each for children; four to five ounces for adults, will prevent fecal impactions.
4. For bladder retention, if simple methods fail, Furmethide is useful. 5 to 10 mgs. orally or 2.5-5.0 mgs. hypodermically. If ineffective or if side reactions are unpleasant, intermittent catheterization should be employed.
5. Therapeutic doses of a soluble sulfadrag is used for any patient requiring catheterization.
6. Bed baths are temporarily discontinued if limbs are extremely painful, and routine mouth-care is abolished if gagging or vomiting occurs.
7. Soft diet should be given and fluids as desired. A vicious cycle of anorexia and malnutrition is another great disadvantage in these patients. Tube feeding is often necessary after the first few days.
8. Any change in rate, rhythm, or depth of respiration must be reported, and any change in voice

2. Steigman, A. J., *Hospitals* 25:44, 1951.

such as nasal tone or speaking in short jerky sentences.

BULBAR PARALYTIC PATIENTS

(Chiefly noted by nasal regurgitation, nasal voice and inability to swallow well.)

1. The patient is placed into prone position with the head low (20 degrees) and face to one side.
2. Mechanical aspiration of throat p.r.n.; rigid or semi-rigid tip is preferred to avoid gagging; swiftness and gentleness to avoid vomiting. This procedure should be shown to the nurse by the physician with each patient. If arms are not paralyzed, the patient often performs aspiration very well alone.
3. Antibiotics are used as prophylaxis for pulmonary infection. Neopenil is injected (500,000 units once daily) which provides high penicillin levels in the tracheo-bronchial tree.
4. Avoid nasal tubes for feeding or oxygen during first few days since they provoke gagging, vomiting, and increased secretions. Oxygen can be given by means of a funnel placed close to the airway.
5. Tracheotomy is indicated if airway cannot easily be kept open by prone head-low position and pharyngeal aspiration.

RESPIRATORY DISTRESS

IN POLIOMYELITIS PATIENTS

(For a full description see³)

- A. *Sources of Respiratory Distress* from one or all of three major components:
 1. Primary disturbance of breathing muscles with spasm, weakness and paralysis of the intercostal muscles and the diaphragm due to neuronal lesions

3. Management of Poliomyelitis Patients With Respiratory Difficulty, *The National Foundation for Infantile Paralysis, Inc., N.Y.*, 1952.

in the cervical and thoracic segments of the spinal cord.

2. Interference with adequate airway by the following factors:
 - a) paralysis of pharynx with accumulation of secretions.
 - b) interference in the trachea and bronchi by aspiration of secretions, saliva and vomitus.
 - c) interference of ventilation in the lungs from secondary pneumonia; pulmonary edema; atelectasis.
 - d) involvement of the larynx due to spasm, weakness, or paralysis of the laryngeal muscles or vocal cords.
 - e) miscellaneous factors, including anxiety reaction, oversedation and alkalotic effects of vomiting.
3. Disturbance of the respiratory center in the medulla. Lesions of these centers cause various irregularities of rate, rhythm, and depth of breathing. It is very important to individualize the sources of the particular patient's respiratory distress because of therapeutic decisions viz. respirator, aspiration, tracheotomy used separately or in conjunction for a given patient.

B. Early Recognition of:

1. Anxiety and restlessness.
2. Inability to talk easily without stopping for breath, resulting in short jerky sentences.
3. Inability to cough normally.
4. Rising pulse and respiratory rate which may become irregular.
5. Beginning use of accessory muscles and movement of alae nasae.
6. Relative immobility of the thorax which may be segmental or complete, one-sided or bilateral.

7. Padoxical abdominal movement, indicating spasm weakness and paralysis of the diaphragm.

C. *Management of following conditions:**

I. *When the Chief Difficulty is Weakness of Respiratory Muscles:*

1. A mechanical respirator is needed early; its function should be explained to allay anxiety of the patient. Tank (body) respirators are generally preferable in the early stages, but portable (thoracic) respirators may be a life-saving interim measure and are useful in the later stage of weaning a patient out of respirators.

2) The stage-setting in placing a patient in a respirator is of vital importance. Hurry, anxiety, and noise must be avoided. Many patients adjust to the machine better if a parent or spouse is present and behaves in a reassuring manner.

2) The machine's amplitude and rate is varied according to the patient's response. Initially an amplitude of plus 5 cms. to minus 15 cms. can be tried. If the patient was previously breathing rapidly, an increased rate for 10 to 20 minutes is used and gradually reduced as the patient becomes acclimated. When in doubt *over-ventilation* in the early stages is indicated.

3) If the patient fights the respirator, brief periods of extreme hyperventilation (maximum rate and depth of machine) may, on occasion, overcome this fear. If available, the electrophrenic respirator may be useful in overcoming this condition.

*The physician should not wait until straining and exhaustion are evident. Cyanosis is a very late sign and must not be permitted to occur.

4) Patients requiring mechanical respirators should be closely watched for accumulation of pharyngeal secretions or they will be drowned. If constant pharyngeal aspiration is not available or successful in keeping a clear airway, early tracheotomy is essential.

5) the patient should be weaned starting on the first day even if only for one second. Chronic respirator dependency is easier to prevent than to treat. The period spent out of the respirator, aided by oxygen and verbal encouragement, should be increased. Achievement charts are useful; the physician simply graphs the number of seconds or minutes or hours which the patient spent out of the respirator.

6) From the outset the physician should anticipate (and neutralize by passive and active movements) the effects of prolonged immobilization, viz. urinary tract stasis and calculi, skeletal decalcification, atelectasis and pulmonary infection.

7) As soon as danger to life is passed, the patient and family should be oriented as to the anticipated physical limitations of future activity.

II. *When Respiratory Muscle Weakness and Bulbar Paralysis Coincide:*

III. *Management of Tracheotomy:*

1. The principles of early management are similar to those of any acute infectious obstructive condition requiring this operation. Since the air or oxygen entering the lungs via the tracheotomy is not warmed or moistened as would occur normally, humidification of oxygen is important. Similarly, the patient should be kept hydrated

systemically in order to avoid drying and crusting which causes obstruction, suppuration and atelectasis. A therapeutic solution containing saline neosynephrin and trypsin⁴ can be instilled into the tracheotomy followed by aspiration to remove secretions.

2. All of the points mentioned above are directly applicable. In addition, the patency of a completely clear airway is often compromised. Unless the most

4. Steigman, A. J. and Scott, C. H., *J.A.M.A.* 150:1403, 1952.

Observations on the Use of Large Doses of Testosterone Propionate in Acute and Chronic Liver Disease

The results of this study indicate that the daily administration of 300 mg. of testosterone for 3 to 5 days may confer marked benefit on patients with acute hepatitis and subacute cirrhosis who have profound anorexia and lethargy. A significant biochemical difference exists between patients with acute hepatitis and portal cirrhosis in their ability to convert 1000 mg. of testosterone propionate to 17-ketosteroids within 48 hours. This hormonal conversion is greatly reduced in cirrhosis, averaging 5.5% in 10 cases, whereas in 5 cases of acute hepatitis 23.8% recovery was obtained.

Increased edema and ascites develops in portal cirrhosis from such large doses. No clinical evidence of fluid retention has been noted in acute hepatitis in the absence of pre-existing heart failure. Either diuresis of retained fluid or clinical edema may develop in subacute alcoholic cirrhosis.

meticulous and constant aspiration of pharynx can be conducted, early tracheotomy is essential.

3. Poliomyelitis patients who have been tracheotomized differ in one important respect from those patients whose tracheotomy was performed for an acute obstruction as in diphtheria; namely the thoracic musculature in the former is usually paretic. A common mistake made by physicians is to remove the tubes too early in patients who are unable to cough.

An adequately functioning liver appears necessary for the development of certain secondary hormonal changes during the convalescent phase. Increased libido develops in both male and female patients with acute hepatitis and subacute alcoholic cirrhosis. Hirsutism, masculinization of the voice, and acne may follow in those female patients in whom the total dose exceeds 2.0 gm. The cirrhotic is usually characterized by an absence of the above noted subjective and objective changes.

Therapeutically, the clinical use of 500 to 300 mg. of testosterone propionate appears contraindicated in decompensated portal cirrhosis. No definite conclusions relative to acute hepatitis and subacute alcoholic cirrhosis can be drawn from this preliminary data. But, as stated above, patients with acute hepatitis and subacute cirrhosis who have marked anorexia and lethargy may receive striking benefit from the use of testosterone.

(F. M. Morgan, G. K. Wharton, P. Starr, R. R. Commons, *Clin. Research Proc.*, 1:36, 1953.)

Modern Treatment of Common Skin Diseases

*Dermatitis is often overtreated.
The skin must be given an opportunity to
employ its own powers of recovery*

LOUIS G. JEKEL, M.D., *Phoenix, Arizona*

GENERAL PRINCIPLES

Treatment of skin diseases has undergone great changes in recent years. The results of dermatological therapy are much more gratifying than they were several years ago.

Although modern treatment is in many respects much different, a number of general principles laid down by early dermatologists still hold good. The first and foremost rule is: **DO NOT OVERTREAT**. The skin should be treated gently and given every opportunity to employ its own powers of recovery. In the presence of acute inflammation, application of soothing wet dressings is most desirable. A 1% aqueous solution of aluminum acetate is excellent. The patient can easily prepare such a solution by placing one teaspoonful of powdered aluminum acetate in a pint of cool water. Some patients may respond better to a weak solution of boric acid or magnesium sulfate. A cool solution is usually better for a simple dermatitis, whereas a warm one is pre-

ferred for an infectious condition. The use of a solution of potassium permanganate (1:5000) is desirable in many infectious cases. When an acute dermatitis is not accompanied by weeping and crusting, it is often desirable to follow the wet dressings with a lotion containing a powder for its cooling effect. Calamine lotion or various types of zinc oxide lotions suit this purpose admirably. Pruritus which is usually severe in these cases, can often be controlled by adding to the lotion a very small amount of phenol (1%) or liquor carbonis detergens (3%), or both. The following prescription is useful:

Phenol	1.0%
L.C.D.	3.0%
Zinc oxide	10.0%
Starch	10.0%
Glycerine	15.0%
Rose water qs.	100.0%

A powdery lotion should not be used in the presence of weeping and crusting. In such cases the patient may use a hypoallergenic cold cream. Later, when the inflammation has

subsided somewhat, a paste may be used. Lassar's Paste (without salicylic acid) or a modification of it is useful for this purpose. A subacute or chronic dermatitis may be treated with a less mild or even a stimulating agent.

Following precautions are indicated:

1. Whitfield Ointment in full strength should not be used because it often irritates the skin, but when used in a milder form, it is quite effective as an anti-fungal agent. A suitable preparation can be made by mixing equal parts of full strength Whitfield ointment and petrolatum.
2. Ammoniated mercury in a strength greater than 5% should not be used since it may produce sensitivity. Sulfur and mercury in the same skin area should not be applied at the same time. Such a mixture will produce mercuric sulfide and leave black deposits on the skin.
3. The use of greases in hairy parts, especially in the groins and axillae, irritate hair follicles; this often causes inflammation and may produce abscess formation.

Pruritus is the most prominent and the only important symptom with which the patient suffering from dermatitis is confronted. Cool or cold wet dressings often bring great relief. For very dry areas, cold oil such as mineral oil may relieve the itching. Phenol is probably the most used chemical agent for the relief of Pruritus. When used in the strength of 1% it is a valuable antipruritic agent. It can also be added to lotions or ointments. Resorcin (3% to 5%) is likewise useful. Liquor carbonis detergens (3% to 10%) is often added to lotions, ointments, or pastes

for its antipruritic effect. A number of surface anaesthetics are popular as antipruritic agents. Among these are: nupercaine, benzocaine, and similar substances. Most dermatologists refrain from using these agents because of their extraordinarily high sensitizing potential, and the frequency with which they produce dermatitis. One notable exception to this reluctance to use surface anaesthetics is quotane. This preparation, which is available in both ointment and lotion form, is an excellent antipruritic agent and has been found, during extensive usage, covering several years, to possess a very low sensitizing potential; so low, in fact, that cases of irritation due to its application are very rare.

PYOGENIC INFECTIONS

Great progress has been made in recent years in the treatment of pyogenic infections of the skin. This progress is for the most part dependent on the development of the sulfonamides and antibiotics. There are many variable factors concerned with the use of these preparations and no hard and fast rule can be laid down as to the choice of one of them. Certain general rules should guide us, however, in the choice of a drug. First the bactericidal or bacteriostatic effectiveness of the medication should be considered. This factor will be determined in part by the type of micro-organism encountered. In practice we find that a number of the preparations are almost equally effective, or near enough so that other factors may be permitted to determine the choice in many cases.

A second factor is the sensitizing potential of the product. A point of considerable importance arises here. As a general rule it is unwise to use any agent topically which is also of importance as an internal medication, because application of such an

agent on the skin may sensitize the patient to the product so that later it could not be used internally. It is therefore unwise to use any sulfonamide or antibiotic topically which may have a wide and, a times, urgent use internally. Penicillin is a very active sensitizer, and should not be used topically under any circumstance. In general, for the treatment of ordinary pyogenic skin infections such as impetigo and pyoderms, neomycin or bacitracin or a combination of the latter with polymyxin B (Polysporin ointment) are the best agents available at the present time.

Internal medication is also of value in the treatment of pyogenic skin infections. Penicillin, aureomycin, and terramycin are most frequently used; erythromycin is coming into greater use. The general principles governing the use of antibiotics will guide the physician in such cases. Superficial Fungous Infections guide

In most parts of the United States the cause of tinea capitis is usually found to be *Microsporum audouini*, known in general as the "human type" of organism because its natural habitat is the human scalp. In a rather large area, however, (especially in the Great Southwest) the most commonly found organism is *M. lanosum* (also known as *M. canis* or *M. felineum*) which is the so-called "animal type" because its natural habitat is on domestic animals such as the dog and cat. The type of tinea capitis caused by *M. audouini* is at times very difficult to cure, and for this reason x-ray epilation is often used. This is a procedure requiring great skill and experience and should be carried out only by a person who has had special training in its application.

Infections caused by *M. lanosum*, on the other hand, are less difficult to cure, and usually x-ray epilation is not required. Topical therapy is

required in any case. An ointment containing salicylic acid (3%) and ammoniated mercury (5%) is excellent in most cases. Preparations containing undecylenic acid and propionic acid have found favor with many dermatologists. Asterol ointment has been found helpful in many cases, but toxic manifestations in small children limit its usefulness. Whatever preparation is used, the hair should be cut short to facilitate treatment. The medication is applied to the scalp at bedtime and is washed off completely on arising.

Parents should be informed at once as to the difficulties encountered in the treatment and cure of this condition. A rather dark picture is deliberately presented so that great disappointment in the treatment will be avoided. It should be stated that a cure cannot be anticipated in less than six months. The child is permitted to attend school as soon as treatment is well under way.

Ringworm of the body (*Tinea circinata*) may occur in adults as well as in children. The lesions on the glabrous skin are usually easily eradicated by topical application of antifungal agents. A weak Whitfield ointment is very effective and usually well tolerated by the patient.

Special rules govern the treatment of the skin in the region of the groins and axillae. Greases are poorly tolerated in these areas because they often lead to follicular abscess formation; therefore, a lotion is used in the treatment of tinea cruris. A pleasant and effective lotion contains resorcin in alcohol. If the patient tolerates mercury, it may be incorporated as in the following prescription:

Bichloride of mercury	0.1%
Resorcin	5.0%
Alcohol	
Rose water as. qs. ad	100.0%

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Rubbing alcohol is perfectly acceptable for this lotion. The lotion is applied on the affected parts three times a day. Cure is usually effected in two or three weeks. Sometimes, the disease will be refractory; superficial roentgen therapy should then be applied.

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Fungous infections of the feet vary greatly in their manifestations. For an interdigital infection known commonly as "athlete's foot" a half-strength Whitfield ointment is quite satisfactory. It is massaged gently into the skin at bedtime. Secondary infection is not uncommon, however, and is treated as any pyogenic infection according to the suggestions given above. Often a vesicular reaction occurs on the soles and palms ("id" reaction.) The larger vesicles are opened by cutting through them with a fine sharp-pointed scissors. Then an exfoliating shake-lotion is applied frequently. A very satisfactory preparation is a zinc oxide shake-lotion containing 1% phenol, 3% liquor carbonis detergens, and 5% resorcin. Superficial roentgen therapy is most useful in many of these conditions. Sometimes the infection becomes quite chronic and takes on hypertrophic characteristics. In such conditions a modified Whitfield ointment or a crude coal tar ointment is used in conjunction with superficial roentgen therapy. Asterol, a benzothiazole derivative which may be used in ointment or tincture form, is useful in some cases. The use of asterol, however, in small children has been accompanied by toxic manifestations; the product, therefore, is used only on older children and adults, and over only relatively small areas of the body.

ACNE AND SEBORRHEA

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Many newer approaches to the treatment of acne, while proving to be useful adjuncts in many cases, have not proven to be specific, and

have not replaced the conventional methods as routine procedures. Much has been written about the use of estrogenic substances in acne. Although these agents are of benefit in some cases, they are not constantly dependable, and must be used only as part of the routine. The same holds true for the use of antibiotics. Some patients seem to benefit somewhat by these agents, especially cystic acne responds well to the administration of terramycin. But by and large, the antibiotics do not achieve consistently good results and should not be used routinely. In general, the agents mentioned above are useful for patients with acne who also show other indication for their use. The same may be said for other drugs such as iron, thyroid extract, and vitamin preparations.

It is therefore recommended to depend largely on the conventional forms of therapy. First, the patient's general health is considered. Anemia, dental caries, and other abnormalities should be corrected. Health habits should be sensible and adequate rest obtained. Moderate physical exercise is desirable. The diet should be adequate, with restriction of certain foods known to be undesirable for these patients. Fat, and greasy foods are taboo. Chocolate is contraindicated because it is known to be specifically irritating to the pilosebaceous apparatus. Iodine is likewise irritating. Therefore the patient is warned against iodized salt and sea foods, the latter being rich in iodine. Sweets are not forbidden, although they should be restricted; dietary restrictions other than these are not required.

Local treatment is very important. Of the drugs used externally, sulfur is best. Lotio Alba is excellent. Intraderm sulfur solution penetrates deeply into the follicles and is found

to be helpful in many cases. Usually it is advisable to use a lotion, rather than an ointment, for the topical treatment of acne.

Included in the local treatment of acne is the general cleanliness of the skin and the emptying of comedones and pustules. Soap and water is the best method of cleansing the skin. A mild toilet soap is best. Medicated soaps are both unnecessary and undesirable. For unusually oily skins chemical cleansing may be desirable. Seba-Nil is a product found to be useful in this regard. It contains alcohol, acetone, and a sorbitan monolaurate derivative. A cotton pledget is moistened with this solution and wiped over the face thoroughly once or twice a day. An anti-seborrheic agent, such as salicylic acid or resorcin, may be added to Seba-Nil. Mechanical expression of the contents of the comedones and pustules should be done by the physician, a few lesions being treated at each office visit. The patient should be discouraged from carrying out this procedure at home because he might damage the tissues and thereby produce unnecessary scarring.

Superficial roentgen therapy is still superior to any method, or combination of methods, in the treatment of acne. The treatment should be given only by a dermatologist trained and experienced in its application. A course of twelve weekly treatments is given, each dose amounting to 50 or 75 roentgens. Frequently, laymen and even physicians, claim that superficial roentgen irradiation is dangerous and should never be employed in benign dermatoses. Such remarks are unfortunate. A report of extensive studies by Sulzberger and coworkers (*Arch. Derm. and Syph.* 65: 639-655, June, 1952) says that such treatment, when administered according

to the accepted methods in proper dosages, is perfectly safe. Sulzberger infers from his studies of 1000 cases that "there is no evidence that cancers, roentgen ulcers, or any other dangerous sequelae are produced, even with the largest doses which most dermatologists today consider permissible for benign dermatoses (total 1,400 r)". The administration of roentgen therapy is definitely beneficial to the patient, and should be applied whenever possible. The treatment of acne is successful in the vast majority of cases, and physicians who come in contact with young patients should urge them to accept treatment. By taking care of dermal scars, psychic scars will be prevented. The strain on the emotional makeup of these young people is tremendous. Young patients should never be told they do not need treatment, or that they will outgrow this condition.

Seborrhea and seborrheic dermatitis are common skin conditions which are related to acne. The former usually manifests itself as a form of common dandruff. The latter, which is found predominantly on the scalp and face, but may be found elsewhere, shows itself as erythematous scaly areas which are often accompanied by itching. As with acne, the best external medication for seborrheic conditions is sulfur. Salicylic acid and/or resorcin may be included in the following preparation:

Salicylic acid	2.0%
Resorcin	3.0%
Precipitated sulfur	5.0%
Petrolatum q.s.ad	100.0%

Other combinations of these agents can of course be used as indicated. For conditions occurring in the scalp, a shampoo containing selenium sulfide (Selsun suspension) is a very convenient way of applying sul-

fur. In most cases no other treatment will be necessary.

SCABIES

The treatment of scabies has been improved somewhat in recent years. The newer forms of treatment are better; not because they are more effective, but because they are easier and less unpleasant to use. The old fashioned treatment is very effective, and with some uncooperative patients it may be the treatment of choice.

When this old-fashioned treatment is employed the patient should in the first night take a warm soapy bath and then apply liberally over the whole body area, an ointment made according to following prescription:

Precipitated sulfur	4.0%
Balsam of Peru	4.0%
Petrolatum q.s.ad.	100.0%

Fresh applications of this ointment are made four nights consecutively without bathing and without removing the old ointment. The same underclothes are worn throughout the course of treatment. On the morning of the fifth day the patient bathes and puts on clean clothes. All clothing and bedding used before and during the course of treatment must be boiled, ironed with a hot iron, or dry-cleaned and steam-pressed.

Benzyl benzoate has been used extensively in recent years as a cure for scabies because it offers a rapid method of treatment. However, it requires the careful co-operation of an intelligent patient and is quite irritating and uncomfortable to use, and therefore has not been universally employed.

The gamma isomer of hexachlorocyclohexane has been found to be an excellent preparation for the treatment of scabies. Several commercial preparations (Gamiso cream, Kwell ointment) make use of this substance. The ointment is

applied overnight for one or two nights, and thus greatly shortens the treatment. It must be remembered that although scabies does not involve the head of adults and older children it does involve the head of infants. In the latter, therefore, treatment must cover the entire body.

Kwell ointment and gamiso cream are also very effective agents in the treatment of other parasitoses, especially pediculosis. Their use is much simpler and better than the older forms of treatment, whether the pediculi attack the scalp, body, or pubic area.

PITYRIASIS ROSEA

Pityriasis rosea is a rather common skin disease. It occurs most frequently in the spring and autumn in young adults, but may occur at any time in any individual. It is characterized by an eruption showing oval-shaped, pale-red, scaly macules which are often preceded for about a week by a larger single similar macule—the herald patch. The eruption is found predominantly over the upper trunk and upper extremities, but may occur anywhere on the body. The individual oval-shaped macules are usually situated so that their long axes are parallel to the lines of cleavage of the skin. The patient usually thinks he has “ringworm.” Subjective symptoms are usually absent; occasionally itching may be present to a variable degree.

Although pityriasis rosea is a self-limited disease, treatment is usually considered to be justified since the course of the disease can be considerably shortened. Without treatment, the eruption may persist two or three months or more; with treatment the condition usually disappears in two or three weeks. Therapy includes two phases. In the office, ultraviolet irradiation is administered

every four or five days to the point of erythema and subsequent exfoliation. At home the patient makes frequent applications of an exfoliative shake lotion such as the following:

Resorcin 5.0%

Calamine lotion q.s. ad 100.0%

Under such treatment, cure is usually effected in two to four weeks.

PSORIASIS

Psoriasis is a common skin disease which, in its typical forms, offers no great diagnostic difficulty. Treatment of this condition is divided into two parts, external and internal. Through the years certain drugs have proven themselves to be useful for external treatment. Mercury (most commonly used as ammoniated mercury) is one of the best. It has certain limitations, however. For one thing, it is a potent sensitizer so that one must be constantly on guard to detect the onset of a dermatitis due to the drug itself. Also, when the eruption is very widespread, as is often the case with psoriasis, one must avoid toxic reaction due to abundant absorption of the drug through the skin. Ammoniated mercury is often used in an ointment in combination with salicylic acid such as:

Salicylic acid 3.0%

Ammoniated mercury 5.0%

Petrolatum qs 100.0%

If the patient happens to be sensitive to mercury, the salicylic acid may be used alone. Crude coal tar is also an effective product in the treatment of psoriasis. It may be used alone or with salicylic acid in the following manner:

Salicylic acid 3.0%

Crude coal tar 5.0%

Petrolatum qs 100.0%

Coal tar is also used in conjunction with ultraviolet irradiation in a procedure known as Goeckerman treatment. A paste of the tar is applied liberally to the affected areas. Later

it is wiped off and ultraviolet irradiation is administered. Such treatment may be administered every day, indefinitely. This is one of the most effective methods of treatment for psoriasis.

Internal medication is also useful in the therapy of psoriasis. For many years arsenic was administered by mouth for this disease. Now arsenic is no longer acceptable as a method of treatment. There are two specific dangers which prohibit its use. First there is the possibility of producing an exfoliative dermatitis, an occurrence which was observed many times in the past. Secondly, there is the danger of producing arsenical keratoses and subsequent epitheliomas when the arsenic is administered over a long period of time as it must be in these cases.

Lipotropic agents are coming in to routine use in the treatment of psoriasis. This therapy is based on the hypothesis that psoriasis is a disease associated with a disturbance of the fat metabolism. The lipotropic agents are therefore given in an effort to re-establish normal conditions insofar as the fat metabolism is concerned. Among the preparations available is Methischol which has been employed extensively. Vitamin B₁₂ is also being used frequently; it has lipotropic and perhaps other unknown properties which indicate that it is quite useful in the treatment of this chronic, recalcitrant skin disorder. A routine schedule which is employed regularly for internal treatment of psoriasis is given as follows: Two or three Methischol capsules two or three times a day with one vitamin B₁₂ capsule (25 mcgm.) twice a day are given by mouth. In addition to this, vitamin B₁₂ is administered by injection, 50 mcgm. twice a week.

The treatment of psoriasis is still far from satisfactory, but a com-

combination of some of the old-fashioned methods of external treatment with some of the newer internal medications seems to be a definite improvement over the methods of treatment used in the past.

WARTS

The patient with large numbers of warts is a special problem, which cannot be discussed in general terms, but must be individually treated.

Electrodesiccation and curettage is the best method of removal of a single uncomplicated wart. Local anaesthesia is always employed. This is very important, for removal, to be permanent, must be complete and complete removal requires a quiet co-operative patient. The patient, however, can only be expected to be quiet and co-operative if the area has been anesthetized to the extent that there is no discomfort or pain.

The surface of the lesion is desiccated lightly and a small ring (1 mm. wide) of normal epidermis about the lesion is included in this procedure. This ring of desiccated normal epidermis is then cut through with a very fine pair of scissors all the way around the entire wart, thus freeing the wart from its attachment to the normal surrounding skin. The desiccated warty tissue is then curetted with a dull curet. A bleeding surface is thus exposed. This surface is desiccated lightly until all the bleeding points have disappeared, and then is curetted again. Usually the bleeding surface is found after the first two or three curettments, but finally curettage no longer reveals the bleeding surface. Then the operator knows that all of the wart tissue has been removed, and he can be confident that there will be no recurrence. If the desiccating current is kept small and the curetting is done in a delicate manner, scar-

ring will be kept down to a minimum. With this method, of course, each wart must be treated individually, but if the warts are not too numerous it is the treatment of choice.

CORTISONE AND CORTICOTROPIN

Cortisone and ACTH have been found to be useful in the treatment of some common skin diseases. Especially is this true in those cases where it is desirable to hasten recovery and give relief of symptoms which would otherwise persist much longer, even though the end result would be a cure in any case. Among such conditions are certain forms of urticaria which seem to be cleared up entirely and permanently by this form of treatment. This is especially true of acute urticaria, and most particularly that type which follows the administration of penicillin. Results in such cases are at times miraculous. The patient is relieved very quickly, often within six to twelve hours. Two or three days of such treatment often suffices to give complete and permanent relief.

Contact dermatitis of the hands (specific or nonspecific) is a very common condition among housewives and workers in certain industries. Here again, it is often possible to bring about much quicker recovery with the help of cortisone and/or ACTH. Any other type of contact dermatitis such as poison ivy may likewise be treated satisfactorily in this manner. Finally, among the self-limited disorders in which the use of these hormones is helpful are the various forms of drug reactions, many of which respond quite dramatically to such therapy.

Fortunately, therapy with cortisone and ACTH can be carried out in office practice; Cortisone can be given by mouth. Usually the initial dosage is one tablet (25 milligrams) three or four times a day. Occasion-

ally, a higher initial dosage may be advisable. Often within two or three days the dosage is reduced gradually so that as soon as possible a small maintenance dose (25 milligrams once or twice a day) can be reached, to be followed, when permissible, by complete omission of the drug. ACTH can be used in its regular form as adjunct therapy by injection every day or two, or in the repository (slow acting) form perhaps twice a week. The usual precautions must be observed when using these hormones, and the conventional forms of topical therapy are used along with the hormone therapy.

Some of the more chronic common skin disorders have been treated with cortisone and ACTH. Among these, the results in psoriasis have not been very encouraging. Improvement was usually temporary with relapse often occurring while administration of the medication was still being carried out. Atopic dermatitis on the other hand is a condition in which this form of therapy can often be used to good advantage even though on a temporary basis. The severe exacerbations of the disease can be brought under control. At times, this is an extraordinarily valuable procedure, even though it can

only be temporary and we soon must return to the conventional forms of therapy. Eczematoid dermatitis or nummular eczema is another of the more chronic conditions which can be treated in this manner. In this condition, the remission often persists long enough to be considered a permanent cure. Not all such cases will promptly go into permanent remission, but many do, and the others are usually greatly benefitted.

CONCLUSION

A number of common skin diseases were discussed, which are frequently encountered in the general practice of medicine; special emphasis was placed on the therapy of the diseases. Methods of treatment were stressed which have been used successfully by the author in his own dermatological practice.

An effort has been made to discuss those methods of therapy which can be used by any physician in his daily practice. Practically any of these methods can be used, with the exception of administration of superficial roentgen therapy. That modality should be employed only by a physician who has received special training in its use, and has acquired experience in its specific application to dermatological problems.

Treatment of Sprue with Folinic Acid

The nine cases of sprue which were successfully treated with folinic acid are reported from the San Juan City Hospital, Puerto Rico. Improvement in both the hematological and gastrointestinal symptoms was obtained with daily doses of 1000 units of folinic acid, administered intramuscularly for a period of 12 days.

No untoward effects were observed. The authors conclude that folinic acid is from 10 to 15 times more active than an equal weight of folic acid in the treatment of sprue.

(C. A. Romero, R. Vizcarrondo and R. Rodriguez-Molina, *Am. J. Med. Sci.*, 224:9, 1952.)

Elective Induction of Labor

Conditions of its application are increasing. The practical details are briefly described.

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Induction of labor is indicated for such conditions as toxemia of pregnancy, premature separation of the placenta, and certain other urgencies. The drug of choice for this procedure is oxytocin (pitocin), and the mode of administration is the intravenous one. The patients are admitted to the hospital several days prior to the expected date of confinement, and are immediately subjected to sterile vaginal examination to determine the status of the cervix. It is essential that the cervix be "ripe" before any form of induction is attempted. The following considerations are of utmost importance: In the primigravida, the fetal head must be engaged and the maternal pelvis ample; the cervix should point in the axis of the vagina, be at least 75 per cent effaced and admit one

finger. In the multipara the ripe cervix will admit two fingers and may be only 50 per cent effaced. If the cervix is ripe, it has a distinctive elasticity, but if it is unripe, it is firm and rigid. If the membranes can be easily ruptured this is done. All patients with any cephalopelvic disproportion or with other than a vertex presentation are excluded. Grand multipara and patients with medical or surgical diseases are not included.

If the situation is favorable for the induction of labor, the patient is given an enema and sedated with demerol and scopolamine hydrobromide. An intravenous infusion of 1000 cc. of 5 per cent dextrose in distilled water containing 1 cc. of oxytocin injection is then started at a rate of from 10 to 15 drops per

minute. Constant observation by the obstetrician is essential. The nature of the contractions and the fetal heart tones are observed repeatedly. The rate of flow is adapted to the uterine response and may be speeded up to 30 or more drops per minute. The first reaction to the drug is a general increase in the tone of the uterine muscle. This is most pronounced in patients with ruptured membranes. If tetanic contractions or irregularities of the fetal heart occur, the infusion must be decreased or discontinued. If one infusion fails to induce labor, it can be repeated on a subsequent day. After labor has been established, the infusion can be discontinued in some patients, while in others it may have to be continued. It is the authors' impression that continuation of the infusion markedly decreases the need for operative interference other than the application of simple outlet forceps. It is also helpful to promote contraction

of the uterus following the delivery of the placenta and thus decrease blood loss.

The results, in a series of 100 patients, have been most satisfactory. Twenty-eight of the patients were primigravidas. The average duration of labor for the group was 6 hours and 50 minutes. Thirty-five were multiparas in whom the membranes were artificially or spontaneously ruptured prior to the infusion. The average duration of their labor was 2 hours and 50 minutes. Thirty-seven were multiparas with unruptured membranes. The average duration of labor in this group was 3 hours and 30 minutes.

There were no serious complications or fetal deaths. Spontaneous deliveries were the rule. It should be emphasized, however, that this was a highly selected group of healthy patients with impending labor and vertex presentation.

(P. M. Gold and J. H. Angell, *U.S. Armed Forces Med. J.*, 4:555-557, April, 1953.)

Observations on the Clinical Use of a Chlorophyll Dentifrice

The effect of uncontrolled brushing with a chlorophyll-containing dentifrice on chronic gingivitis was studied. One hundred and nine patients used the experimental dentifrice, while 137 patients used a dentifrice of their own choice. At the end of 9 months, no important differences were observed between the two groups with regard to changes in gingival appearance or gingival sensitivity incident to subgingival cur-

rettement. While there was some tendency toward decreased gingival bleeding in the chlorophyll dentifrice group compared with the control group, the difference was not statistically significant.

Similarly, the effect of uncontrolled toothbrushing with a chlorophyll-containing dentifrice on the lactobacillus counts of twenty patients was studied before and after 6 to 9 months usage of this preparation, and no effect on the lactobacillus counts was noted.

(A. H. Kutscher, N. W. Chilton, *J. Am. Dent. Assn.*, 46:420, 1953.)

Cardiac Asthma

*Maintenance doses of dry
digitalis leaf is suggested in
paroxysmal cardiac dyspnea.*

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"Cardiac asthma" is not asthma at all in the common sense of this term, but is a paroxysmal cardiac dyspnea. The condition may be nocturnal in character, but is more likely related to physical exertion which, in the interval between paroxysms, is always accompanied by dyspnea.

A fundamental requirement for paroxysmal cardiac dyspnea, is an increase in pulmonary pressure. Without this paroxysmal dyspnea cannot occur, and this increased pressure is the keystone to the concept and eventually to the treatment. There may or may not be a conspicuous increase in pulmonary arterial pressure. If arterial pressure is increased, it is an exaggeration of the normal in the opposite direction to that in bronchial asthma; the rise occurring with inspiration and

the fall with expiration, where the reverse is true in bronchial asthma.

The increased pulmonary venous pressure leads to a series of local pulmonary disturbances, including pulmonary venous engorgement, alveolar edema, and pulmonary rigidity, as a result of which certain portions of the lungs become like erectile tissue. Another resulting disturbance is swelling of the bronchial mucous membrane, adding to the circulatory disturbance a certain degree of obstructive inspiratory and expiratory embarrassment. This, however, is minor compared with the turbulence resulting from increased pulmonary venous pressure and edema.

As a result of these circulatory disturbances there is dyspnea on exertion, in some instances almost constant, which is quite different from the dyspnea of bronchial asthma.

The cough of *cardiac asthma* or dyspnea is conspicuously different from that of *bronchial asthma*. The sputum in bronchial asthma is tenacious and scanty; that in cardiac dyspnea is fluid and abundant, and may increase to large amounts of serous, blood-tinged, or even bright red, thin edema fluid.

Paroxysmal cardiac dyspnea may occur during sleep and therefore is often confused with bronchial asthma which, if caused by feathers, wool, horse hair, or other epidermal agents, occurs most often during sleep, but the clinical pattern is entirely different. The respirations in cardiac dyspnea are rapid and shallow and not obstructive in any sense of the word; the rales are moist and located at the bases of the lungs and not in the upper lobes except in very extreme situations, and are caused by edema and not by bronchial obstruction or mucous secretion. Dry rales are relatively rare, and when present in paroxysmal cardiac dyspnea they may be and probably are due to edema of the bronchial mucous membrane. There is no evidence of emphysema. Roentgenograms reveal bilateral engorgement in the lower portions of the lungs. There is a reduced vital capacity at all times and not just during paroxysm. The circulation rate is prolonged; there is acute arterial anoxia, and acute carbon dioxide and lactic acid acidosis. All these manifestations conspire to make the dyspnea more agonizing to the patient.

Cardiac dyspnea is found first — and probably the most important, because it occurs early in life—in

mitral valvular disease, particularly mitral stenosis. The degree of dyspnea and of the paroxysms both on exertion and during sleep is a good indication of the severity of mitral stenosis. The next most common cause is hypertension with left-sided cardiac failure. Associated from a similar point of view in the dynamics of this circulatory disturbance is aortic stenosis, which is really a form of hypertension with the block occurring at the aortic orifice instead of at the peripheral arterioles. A fourth cause is left ventricular failure due to myocardial infarction. These conditions account for more than 95 per cent of cases of paroxysmal cardiac dyspnea.

Adrenalin and epinephrine are indicated in bronchial asthma, but not in cardiac dyspnea because the latter condition is worsened by them. Aminophyllin is useful occasionally in bronchial asthma and also in paroxysmal cardiac dyspnea; but it is not certain just how much of the good effect is due to its action as a vasodilator and how much is due to its action as a bronchial dilator. If it is a vasodilator, it is not indicated in cases of mitral stenosis. For treatment of nocturnal attacks, the author recommends a small oxygen tank and a simple breathing mask to cope with the terror of suffocation.

Finally, recommendation is made that all patients with cardiac dyspnea be given a maintenance dose of digitalis, that is, of the dry digitalis leaf prepared under proper pharmaceutical standards. The latter preparation is simplest and safest and makes overdosage difficult.

(J. C. Meakins, *Postgraduate Med.*, 13:89, 1953.)

Radioisotopes in Bladder Cancer

*Availability of radioisotopes
makes practically any technique
of irradiation possible.*

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Various radioactive isotopes with a short or long half-life have been made available whose range of physical properties make practically any technique of irradiation possible. They can be applied as solids or in solution. In either intravaginary or interstitial irradiation the degree of penetration, the rate of dosage, the time and the protection problems for the personnel, all influence the choice of the isotope.

The solid isotopes which are being used in urological practice are gold (Au^{198}), tantalum (Ta^{182}) and cobalt (Co^{60}). Gold is used as a substitute for radon seeds in the form of a small solid cylinder of gold sheathed in platinum to filter off the beta radiation. These gold grains are much smaller than radon seeds and as they are accurately machined

they can be used in a gun which permits rapid and easy insertion of the grains. The gun holds a magazine of 15 grains at one loading and the grains are ejected out of the gun by pressure on the trigger. Gold has a short life (2.7 days) like radon (3.8 days) but, unlike radon, if the grains are not used they can be reactivated at a nominal cost.

Tantalum is an alternative for radium. Used in the form of wire it is a flexible source of radiation that can be inserted by several methods. Active wire has to be sheathed in platinum, again to absorb beta radiation. When sheathed, it is flexible to a degree that varies with the thickness of the tantalum core. With a half-life of 111 days, tantalum can be used over a long period of time; it can be kept as a bank and used on

several occasions. If unused, it can be reactivated. The main advantage is that linear parallel wires inserted in the bladder wall result in a more even irradiation than multiple unevenly implanted point sources and the dose can be altered by the length of time the wires are allowed to remain in situ. The relative inexpensiveness of wire and the low wastage rate make wire an attractive alternative for radon from the administrative aspect; the ease of insertion, the quality of implant, ease of removal and its constant availability confer advantages from the clinical standpoint.

Cobalt has been used as a source of radiation for a longer period than most of the other isotopes. In the form of a solid bead or needle it can be used for either intravaginary or interstitial irradiation. It has a longer half-life (5.3 years) than tantalum, but it has two disadvantages: (1) it is absorbed if left in contact with the tissues, (2) it is difficult to sheath and has to be plated in order to eliminate beta radiation. Cobalt can be regarded as a substitute for

radium, but it cannot be used readily as a flexible alternative.

Isotopes are also used in the form of solutions. The use of cobalt in this form is to be discouraged because its long half-life makes accidental spillage or contamination potentially dangerous. Sodium and bromine are both being used in solution. Sodium (Na^{24}) as sodium chloride, and bromine (Br^{82}) as calcium bromide, have short half-lives (12 hrs.; 35 hrs.), and any absorption or spillage is not a serious matter. In the case of sodium chloride the rate of absorption is so slow that in the event of any accident it is possible to wash out the bladder before significant absorption has occurred. The two solutions vary in their radiotherapeutic properties, sodium gives a relatively higher beta radiation than bromine. During treatment of a mucosal bladder lesion the respective doses would be: Sodium: 4000 r gamma plus 5000 r beta; Bromine: 6000 r gamma plus 1500 r beta. These are the isotopes usually employed in urological surgery.

(D. M. Wallace, *Proc. Roy. Soc. Med.*, 46:240-241, 1953.)

Assessment of Cough-Suppressing Drugs

A single volunteer was successfully stimulated, by means of peppermint water and ether, into coughing fits of predictable severity, the suppression of which was then made the basis of the effectiveness of a certain number of drugs. The drugs thus tested were: codeine phosphate (65 mg.), morphine HCl (16 mg.), diamorphine HCl (10 mg.), and amidone (16 mg.) — all injected subcutaneously. In three series of experiments, comprising some 192 trials, morphine, diamorphine and amidone proved to

be potent cough suppressants, but it was not found that codeine was superior to the other drugs. The psychological factor was considered of great importance in all the experiments and was carefully studied.

This particular mode of inducing a cough and of testing the effectiveness of cough suppressants is deemed to have decided advantages over similar, previous attempts, and that mainly for the reasons that (1) the cough was indistinguishable from a naturally occurring one, and (2) the tests were made on a single individual in the course of a year.

(B. R. Hillis, *Lancet*, 1:1230, 1952.)

Roentgenographic Classification of Tuberculous Kidney Lesions

A classification into 5 groups according to the extent of visible tuberculous changes is made.

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Accurate evaluation of the effectiveness of the new antituberculosis drugs will not be possible until better standards for judging the results are established. For example, it is quite futile to compare percentages of bacteriologic "conversions" in patients who have massive necrotic kidney lesions with those of patients who have only tiny lesions of the kidney. The need for a standardized, accurate classification of the kidney lesions is a particularly urgent one. The author now presents such a classification. Tuberculous kidney lesions are classified on the basis of roentgenographic findings, the criteria for which were worked out and applied during the past 6 years by the Research Unit for Genito-Urinary Tuberculosis at the Kingsbridge Veterans Hospital in New York City and at Columbia University.

Definite proof of tuberculosis (i.e., positive urine culture of *Mycobacterium tuberculosis*, positive guinea pig test, or positive histologic proof after surgery) was obtained in all cases used in these research studies. Smears positive for acid-fast bacilli were not accepted for research purposes, although in clinical practice the presence of a positive smear together with classical roentgenographic signs of the disease might be considered sufficient grounds on which to initiate treatment. Treatment was sometimes started, however, on the basis of definite roentgenographic changes in the kidney and a positive culture from the voided urine. As soon as the diagnosis was established bacteriologically, the extent of the kidney lesions was estimated from the roentgenographic findings.

The kidney lesions were classified into five groups, according to the extent of the visible tuberculous changes:

1. *Group 0* was made up of kidneys which showed no pyelographic abnormalities whatever. All kidneys of this group discharged pus cells and had been proved to be tuberculous by the culturing of tubercle bacilli from the ureteral specimens.

2. *Group 1* consisted of those kidneys which showed a slight but definite roentgenographic abnormality of the pelvis, calyces, or upper ureter. Kidneys without visible calyceal changes, but which showed persistent deformities of the pelvis or

ureter, were placed in *Group 1*.

3. *Group 2* was made up of those kidneys proved to be tuberculous which showed a distortion of as little as a single minor calyx, but with a roentgenographic appearance typical of tuberculosis.

4. *Group 3* consisted of tuberculous kidneys, roentgenograms of which showed two characteristically altered calyces or two large areas of involvement, such as cavitations, calcifications, or segments of non-functioning parenchyma.

5. *Group 4* was composed of kidneys, the roentgenograms of which showed massive tuberculosis lesions involving three or more calyces.

(*Am. Rev. Tuberc.*, 67:604, 1953.)

Banthine and Bladder Control

Banthine, in moderate doses, was found to be most effective therapeutically in the uninhibited neurogenic bladder, a condition frequently encountered in patients with multiple sclerosis, hemiparesis due to cerebrovascular accidents, luetic paresis (not tabes), postoperative cordotomy and congenital neurogenic enuresis. It may be recalled that Banthine is a quarternary ammonium derivative which has the acetylcholine-blocking action of atropine and also blocks transmission through the autonomic ganglia.

In the instance just mentioned, the drug causes a disappearance of uninhibited contractions and results clinically in a decrease in frequency of urination, with complete disappearance of urgency and incontinence, without producing urinary retention, it is claimed.

These conclusions are based upon the findings in 3 cases of multiple sclerosis, 3 cases of post-cerebrovascular accidents, 1 case of luetic paresis, 1 post-cordotomy case and 2 cases "with no known neurogenic defect." Banthine was given either intravenously (100 to 150 mg.), or orally (25 to 100 mg. four times daily). Care must be taken in its use in patients with prostatic enlargements in whom it may cause urinary retention. In four patients with transverse myelitis and reflex neurogenic bladders, Banthine, given intravenously in full doses "in conjunction with distension of the bladder," was found to increase rapidly the bladder capacity and eventually decrease the frequency of voiding contractions. No harmful side-effects were noted in any of the patients.

(J. Lapides and A. Didson, Jr., *J. Urology*, 69:96, 1953.)

THERAPEUTIC TRENDS

Sulphonamides and Dermatitis Herpetiformis

Three cases are reported which have been successfully controlled by sulphapyridine over periods extending from 8 to 13 years. It is the author's belief that "dermatitis herpetiformis can be controlled in most patients with sulphapyridine. In a lesser number, sulphadiazine is effective. In a very few, sulphadiazine is effective whereas sulphapyridine is not. Sulphathiazole is apparently ineffective."

Younger patients responded more rapidly than older ones, the latter being more liable to develop toxic reactions. Some patients are completely intolerant of sulphapyridine. This intolerance usually develops within the first week or 10 days. If no toxic symptoms develop within that time, the drug can usually be taken indefinitely without apparent harm. In the view of the possibility of toxic reactions, it is considered that the concomitant administration of sodium bicarbonate and plenty of water is essential and, during the first month of treatment, repeated examinations of the urine and blood must be carried out.

Definite depression of the leucocyte count (below 5000) or red cell count during the first few weeks of treatment calls for immediate cessation of treatment. A few red cells in the urine can be ignored, but increas-

ing hematuria indicates immediate withdrawal of the drug, as does persistent or increasing crystalluria. On the other hand, in dealing with patients with dermatitis herpetiformis, care in the selection of cases, proper dosage of the drugs employed, and diligent attention to toxic manifestations should prevent serious reactions.

(H. H. Hopkins, *Bull. Johns Hopkins Hosp.*, 92:1, 1953.)

Choline Chloride in Liver Disorders

Twenty-one patients with liver disease who were treated with choline remained on their usual low-protein diet, and the alcoholic patients continued on their full allowance of alcohol. The patients received 4 to 5 gm of choline chloride by mouth daily, for 10 to 45 days. All of the patients thus treated improved clinically; they included cases of simple alcoholic steatosis or cirrhosis, of tuberculous steatosis associated with alcoholism, of liver regeneration and infective hepatitis. Edema disappeared, fat tended to disappear from liver cells, and total serum lipids, if previously raised, decreased, while phospholipids increased. These changes are attributed by the authors as due to the choline therapy, because the diet and alcohol consumption of these patients had been kept constant.

(J. Picard, A. M. Picard, *Presse Médicale*, 60: 807-809, 1952.)

Medical Management of Pulmonary Tuberculosis

Fundamental advances in the treatment of pulmonary tuberculosis include: (1) discovery of potent antimicrobial agents; (2) development of newer surgical technics, such as lung resection and permanent collapse of the lung, and (3) lessening use of temporary collapse measures. Rest is still the cornerstone of treatment, and may be sufficient for the cure of many patients. Drug therapy is, however, revolutionizing the treatment of tuberculosis. It is now almost universally agreed that all patients with active, minimal pulmonary tuberculosis and tuberculous pleurisy with effusion should receive antimicrobial therapy. Antimicrobial therapy should be continued for at least 6 to 12 months in every case and in the more serious types of tuberculosis, 10 to 24 months or longer. Repeated short courses of therapy result in the appearance of drug-resistant strains of tubercle bacilli more frequently than does continuous therapy.

Streptomycin or its derivative, dihydrostreptomycin, combined with PAS (para-aminosalicylic acid) remains the most effective drug for the treatment of tuberculosis. Intramuscular administration of streptomycin (1 gm.) every third day, combined with oral para-aminosalicylic acid (12 gm.) daily, has been widely recommended. The extremely low toxicity of this therapeutic regimen has done much to widen the applicability of antimicrobial therapy.

Isonicotinic acid and hydrazide (Isoniazid) (INH) gives promise of being as effective when used in combination with streptomycin (SM) 1 gram every third day, Isoniazid 150 milligrams daily, as the Sm-PAS

regime of 1 gm. every third day, PAS 12 gm. daily. The combination of SM-PAS has now been used for years and its value is well established. INH (Isoniazid) when used alone, shows a bacterial resistance rate of 50 per cent in 90 days. It must therefore always be used in combination. Finally, while pneumothorax is not employed as much as formerly, pneumoperitoneum, with or without phrenicectomy, has been receiving more favorable attention.

(J. F. Gardiner, *J. Omaha Mid-West Clin. Soc.*, 14:61-63, 1953.)

Use of a Lozenge to Curb Smoking Appeal

Smoking appeal was effectively reduced in 77 per cent of 349 smokers following the use of a medicated lozenge. The lozenge contains benzocaine, 1/20 grain, and is flavored with saccharin, extract of liquorice, powdered ginger, and oils of anise, wintergreen, peppermint, coriander, and cloves.

The recommended method of use is to take a lozenge every time there is a desire to smoke. The average number of lozenges taken by the subjects of this investigation was 6 daily, but some took as many as 15.

There were no untoward effects. The safety of the lozenges is emphasized and it is pointed out that even if 63 lozenges were taken at one time, this would represent 3 grains of benzocaine, whereas the pharmacological dose is 5 to 10 grains. The anti-smoking action of the lozenge is attributed to: (1) its effect upon taste, and the effect of the small amount of benzocaine in the lozenge is to delay the absorption of the flavoring agents and thereby prolong their effect; (2) it satisfies the smoker's desire to have something in his/her mouth.

(W. L. Gould, *GP*, 7:53, 1953.)

AIDS IN DIAGNOSIS

Effect of Weight-reducing on Normal and Raised Blood Pressures

Abundant evidence is available to suggest that overweight may be accompanied by higher average blood pressures than in normal weight. Clinical experience shows, moreover, that obese hypertensive patients are subjectively improved by weight reduction. What is not so clear is whether reduction in weight is likely to be followed by a significant fall in blood pressure in patients with obesity plus hypertension. The relevant literature is by no means explicit on this point.

In order to clarify this point, the author made a systematic study of thirty-seven patients — all obese — eighteen of whom had normal blood pressures and nineteen had hypertension. None had chronic nephritis, malignant hypertension or valvular heart disease. They were unselected, apart from fulfilling the criteria of having kept to a reducing diet and thereby lost at least 14 pounds in weight during a period of observation of at least six months. The only other treatment given was "Dextro-amine" 5 mg. twice daily to seventeen patients to assist them to keep to the diet. It was assumed that such dosage would not influence the blood pressure, because published reports do not show any constant effect of

d-amphetamine in doses of less than 20 mg. by mouth.

Examination of the protocols of each patient led to the following conclusions:

1. There was an over-all significant regression of *systolic* blood pressure on weight-reduction, having a value of about 3.5 mm. Hg. for every 10 pounds of weight lost. There were considerable individual variations, but it was clear that weight-reduction in the series as a whole did have some *slight* effect on blood pressure.

2. No significant differences were found between the two groups of patients, or between males and females, and no particular correlation was observed with age or initial weight. In fine, no evidence of any striking relation between weight-reduction and changes in systolic or diastolic blood pressure was observed in the two groups of patients. (Martin, L., *Lancet* 2:1051, 1952.)

The Liver in Obesity

The 20 individuals who were selected for this study were all at least 50 per cent overweight, but gave no history of disease likely to affect the liver. Results of all renal function tests and routine blood examinations were within normal limits. The ages of the subjects ranged from 23 to 71 years; all were free of histological evidence of cirrhosis.

The 5-hour glucose tolerance test showed impaired tolerance in about half of the subjects; one curve was of diabetic type but became normal after this individual had been treated with a high-protein, low-energy diet. The bromosulphophthalein test was abnormal in all of the subjects. Other liver function tests, such as the flocculation tests and the phosphatase and total cholesterol values gave abnormal results in 50 per cent of the subjects, but the serum albumin and globulin values were within the normal range in all.

Only two individuals had no positive liver function test other than the bromosulphophthalein test. Histological studies were made on liver biopsy material from 19 subjects; slight changes in the liver cells were ignored. In 11 individuals the liver showed degenerative changes in the parenchymal cells and there was evidence of regeneration of these in 10 of the patients. In 10 other subjects the liver showed fatty changes of varying severity; in 9 there was bile pigment retention and, in the same number, an increase in the periportal fibrous tissue which in one patient could be classified as early cirrhosis. There was moderate periportal infiltration in 6 instances.

There was no correlation between the degree of obesity and the results of any of the tests but there was a definite correlation between the duration of the obesity and the severity of the histological changes. It is pointed out that insurance statistics show an increased incidence of cirrhosis of the liver in the obese. The liver damage is related to the high energy requirement of the obese and the increased demand for choline and the vitamin B complex vitamins, resulting from the high-carbohydrate, high-fat, low-protein diet generally taken to satisfy this requirement.

(*Arch. Int. Med.*, 90:141-156, 1952.)

Hematopoietic Depression Induced by Chloromycetin

Anemia and hypoplasia of the erythropoietic bone marrow in two patients seem to have resulted from the administration of chloromycetin, according to the evidence made public in this report. Chloromycetin contains a nitrobenzene ring in its structural formula, which has always been considered a potential bone marrow toxin. Thus far there have been reported some 40 cases in which administration of Chloromycetin has been followed by maturation arrest or hypoplasia of one or more bone marrow elements; twenty-seven of these cases have terminated fatally. However, on the basis of 8 reported cases (reported, respectively by Volini, Lindau, and the present author), it seems justifiable to assume that the bone marrow depression in all instances was probably caused by Chloromycetin, because discontinuance of the drug resulted in immediate hematologic recovery.

Awareness of this possible complication should alert physicians to the necessity of keeping a close hematologic check on all patients who are being treated with Chloromycetin. Treatment should be discontinued at the first sign of bone marrow depression. Red blood cell and white blood cell counts as well as blood smears should be done, because the early stage of bone marrow depression—which is reversible—may involve erythropoiesis, myelopoiesis and thrombocytopoiesis, independently. Bone marrow examination will afford a quick check on hemopoietic depression. If these precautionary measures are faithfully observed, Chloromycetin will continue to be of value wherever its use is clearly indicated.

(A. Ersley, *Blood*, 8:170, 1953.)